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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/418,418	10/15/1999	KRISHNA A. BHARAT	21708-04479U	8878

7590 06/29/2004

HEWLETT-PACKARD COMPANY
INTELLECTUAL PROPERTY SECTION
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EXAMINER

TO, BAOQUOC N

ART UNIT	PAPER NUMBER
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2172

DATE MAILED: 06/29/2004

22

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/418,418

Applicant(s)

BHARAT ET AL.

Examiner

Baoquoc N To

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. Claims 1, 11, 15, 19-20 and 23 are amended in the amendment filed on April 19, 2004. Claims 1-12 and 14-21 are pending in this application.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 20 and 21 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are:
searching step for the topic after the crawling process and before the ranking of the expert document in accordance with the search query.

Response to Argument

3. Applicant's arguments with respect to claims 1, 20 and 21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 20 and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al. (Automatic resource compilation by analyzing hyperlink structure and associated Text April 14, 1998) in view of Liddy et al. (US. Patent No. 6,304,864).

Regarding claims 1 and 20-21, Chakrabarti teaches:

ranking target document pointed to by the ranked expert documents (authority page, page. 2, line 45 and ranking page. 3, lines 10-11).

return a results list based on the ranked expert documents (page. 3, lines 11-13).

Chakrabarti does not explicitly teach ranking the expert document in accordance with the search query by (hub score, page. 3, line 10). However, Chakrabarti teaches, "the topic is sent to a term-based search engine AltaVista in our case- and the root set of 200 documents containing the topic term(s) is collected. The particular root set returned by the search engine (among all the Web resources containing the topic as a text string) is determined by its own scoring function" (page 2, lines 35-38). This teaches the root page that result in search query and rank the root page by the scoring. Chakrabarti does not teach forming a set of expert documents from the set of all hypertext documents crawled without reference to the search query. However, Liddy teaches "the agents crawl the web and retrieve relevant documents (col. 4, lines 29-59) and rank the retrieval result by the values (col. 11, lines 28-39). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was

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made to include crawling and ranking the results as discloses Liddy into Chakrabarti in order to organize relevancy of documents in the web.

Regarding on claim 22, Chakrabarti teaches ranking the expert documents in accordance with the search query comprises:

Determining a level score for each of the expert documents (page 3, lines 1-2);

Determining a fullness factor for each key phrase on each of the expert documents (page 4, 28); and

Determining an expert score (a hub score, $h(p)$) (page 3, line 10) for each expert document in accordance with the level score of the expert document (page 3, line 28) and the fullness factors for the key phrases of the expert document (page 4, line 7).

Regarding on claim 23, Chakrabarti teaches determining which of the hypertext document are expert documents occurs before a search query is received (the algorithm first gathers a collection of pages from among which it will distill ones that is consider to be the best topic) (page 3, lines 34-35).

5. Claims 2-10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al [Automatic Resource compilation by analyzing hyperlink structure and associated text, April 14, 1998] in view of Liddy et al. (US. Patent No. 6,304,864) and further in view of Yu (U.S. Patent No. 6,167,552).

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Regarding on claim 2, Chakrabarti does not teach hypertext documents are pages in the World Wide Web. However Yu discloses, "the set of all documents available using the World Wide Web is an example of a hypertext database" [col. 3, lines 21-22]. Hypertext documents are pages in Word Wide Web. Therefore, It would have been obvious to one ordinary skill in the art at the time of the invention is made to include teaching of Yu into Chakrabarti and Liddy because the hypertext document as disclosed by Yu would use a Web page in order to allow Chakarbarti's system to search for information.

Regarding on claim 3, Chakrabarti teaches the subject matter except for the hypertext documents are documents in a hypertext database.

However, Yu discloses the hypertext documents are documents in a hypertext database (col. 3, lines 17-18).

Therefore, It would have been obvious to one ordinary skill in the art at the time of the invention is made to include teaching of Yu into Chakrabarti and Liddy because the hypertext document as discussed b Yu would have used as a Web page in order to allow Chakrabarti to search for the information.

Regarding on claim 4, Chakrabarti teaches the subject matter except for the hypertext documents are document in hypertext database.

However, Yu discloses in the prior art that hypertext documents are documents in a hypertext database (col. 3, lines 17-18).

Therefore, It would have been obvious to one ordinary skill in the art at the time of the invention is made to include teaching of Yu into Chakrabarti and Liddy

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because the hypertext document as discussed by Yu would have used as a Web page in order to allow Chakrabarti to search for the information.

Regarding on claim 19, Chakrabarti teaches that two hypertext documents are affiliated if at least one of the following is true: 1) they share the same rightmost non-generic suffix they have an IP address in common.

Yu teaches that two hypertext documents are affiliated if at least one of the following is true: 1) they share the same rightmost non-generic suffix (col. 7, lines 55-56) and 2) they have an IP address in common (col. 7, lines 50-56).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention is made to include teaching of Yu into Chakrabarti and Liddy because the two hypertext documents share the same addresses are affiliated to one of the author and they are strongly related to each other.

Regarding on claim 5, Chakrabarti teaches expert reverse index (examiner equates index) is constructed in memory for keywords appearing in the expert documents, the expert reverse index identifying the location of the keywords in the expert documents.

Yu discloses the prior art that an expert reverse index (examiner equates index) is constructed in memory for keywords appearing in the expert documents, the expert reverse index identifying the location of the keywords in the expert documents (col. 3, lines 31-34).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of Yu into Chakrabarti and Liddy because utilizing the inverted index as disclosed by Yu would allow

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Chakrabarti's system to locate the keyword in the document to determine if it is a expert document.

Regarding on claim 6, Chakrabarti teaches the subject matter except for a keyword of an expert document is included in the expert reverse index if the keyword is part of a key phrase that qualifies at least one URL in the expert document.

Yu disclosed in the prior art wherein a keyword of an expert document is included in the expert reverse index if the keyword is part of a key phrase that qualifies at least one URL in the expert document (col. 3, lines 23-24).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of Yu and Chakrabarti because the keyword of an expert document is include in the reverse index as disclosed by Yu into Chakrabarti and Liddy would locate the keyword in the document and determine the document is the expert document.

Regarding on claim 8, Chakrabarti teaches the subject matter except for a key phrase in an HTML title qualify all URLs in the entire document.

Yu teaches a key phrase in an HTML title qualify all URLs in the entire document (col. 12, lines 9-12).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine the teaching of Yu into Chakrabarti and Liddy because having the key phrase in an HTML title qualify all URLS in the entire document would allow the document to be heavily weight as an important document.

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Regarding on claim 7, Chakrabarti teaches the subject matter except for a key phrase qualifies a URL if the URL within the scope of the key phrase in the expert document.

Yu teaches a key phrase qualifies a URL if the URL within the scope of the key phrase in the expert document [col. 8, lines 9-19].

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine Yu into Chakrabarti and Liddy because the key phrase is the URL which are qualified to be an expert document as the claimed invention.

Regarding on claim 9, Chakrabarti teaches the subject matter except for a key phrase in an HTML heading qualifies all URLs in that portion of the document before a next HTML heading in the document of greater or equal importance

However, Yu teaches a key phrase in an HTML heading qualifies all URLs in that portion of the document before a next HTML heading in the document of greater or equal importance (col. 10, lines 29-32).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to include the key phrase in an HTML heading qualifies all URLs of Yu into Chakrabarti and Liddy in order to determine which of the URLs are the most information links.

Regarding on claim 10, Chakrabarti teaches the subject matter except for a key phrase in an HTML anchor qualifies the URLs in the anchor.

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However, Yu teaches a key phrase in an HTML anchor qualifies the URLs in the anchor (page. 12, lines 6-12).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combine Yu into Chakrabarti and Liddy because the phrase in an HTML anchor of Yu the URLs in the anchor would allow Chakrabarti to read and weight as the important one.

6. Claims 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al [Automatic Resource compilation by analyzing hyperlink structure and associated text, April 14, 1998] further in view of Liddy et al. (US. Patent No. 6,304,864) and further in view of Page (US. Patent No. 6,285,999).

Regarding claim 14, Chakrabarti does not teach the ranking target documents pointed to by the expert documents includes:

determining a plurality of edge scores for each target document, where an edge

score is determined for edges between the expert document and the target document; determining a target score in accordance with the edge scores of the target document; ranking the target document in accordance with the target scores. However, Page teaches, "A has two edges .2, B has one edge .2 and C has forward edge score .4" [fig. 2]. In addition, Page also teaches, "A target score is .4, B target score .2 and C target score is .4" [fig. 2]. Furthermore, Page teaches, "A is the highest rank, and B is the second and C is last" [fig. 2]. Therefore, it would have been obvious to one ordinary skill in the art to include

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the teaching of page into Chakrabarti and Liddy because such a ranking the target document would allow Chakrabarti's system to be able to link from the root document to the relevant document to allow the user get to the relevant site.

Regarding on claim 15, Chakrabarti teaches the subject matter except for determining an edge score only for those link to the target document from a predetermined number of top-ranked expert documents

Page teaches determining an edge score only for those links to the target document from a predetermined number of top-ranked expert documents (col. 4, lines 5-38).

Therefore, it would have been obvious to one ordinary skill in the art to include the teaching of page into Chakrabarti and Liddy because the determining the edge score of Page would allow Chakrabarti's system the enhanced capability of allowing the user get to the relevant site.

Regarding on claim 16, Page teaches selecting target documents to be ranked that are linked to by at least two mutually non-affiliated selected expert documents, where the selected target also is not affiliated with the expert documents (A and B, fig. 2).

Regarding to claim 17, Chakrabarti teaches an edge score between an expert document and a target document $ES(E,T)$ is determined as follows, where ExpertScore reflects the ranking of the expert documents:

a) find # occurrences of each keyword in all keyphrases of expert document E (page 3, lines 21-23).

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b) if the # occurrences for any keyword in E is 0: $ES(E,T)=0$ [page 3, lines 30-32]

else $ES(E,T)=ExpertScore(E)*sum\ of\ \#occurrences\ for\ all\ keyword$
(col. 3 lines 32-40).

Regarding to claim 18, Chakrabarti teaches the subject matter except for if two affiliated experts have edges to the same target, the edge having a lower edge score is discard an is not used to determine the target score (col. 5, lines 49-59).

However, Page teaches if two affiliated experts have edges to the same target, the edge having a lower edge score is discard an is not used to determine the target score (col. 5, lines 49-59).

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to combining the teaching of Page and Chakrabarti and Liddy because Chakrabarti's system the enhanced capability of allowing the system to determining for the pages that are more important.

7. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al [Automatic Resource compilation by analyzing hyperlink structure and associated text, April 14, 1998] further in view of Liddy et al. (US. Patent No. 6,304,864) and further in view of Chakrabarti (US. Patent No. 4,418,433).

Regarding on claim 11, Chakrabarti teaches a hub page is a document having outlinks to pages containing information about the topic. However,

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Chakrabarti does not teach at least a predetermined number of outlinks to be an expert document if the document also point to at least the predetermined number of targets on distinct non-affiliated hosts. However, Setting condition such as threshold or predetermine is known in the art for Chakrabarti also teaches, "the preferred worker includes means for determining whether a gathering rate of relevant pages is below a "panic" threshold" (col. 3, lines 31-33). This teaches the claimed predetermined number of outlinks to be an expert document.

Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention was made to modify the teaching of Chakrabarti (patent) into Chakrabarti and Liddy because that would allow the Chakrabarti's system the enhanced capability of determining which of the pages in the web would satisfy the condition to be an expert page.

Regarding on claim 12, Chakrabarti teaches expert documents additionally must point to documents that share the same broad classification (page. 10, lines 20-33).

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is

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filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baoquoc N. To whose telephone number is (703) 305-1949 or via e-mail BaoquocN.To@uspto.gov. The examiner can normally be reached on Monday-Friday: 8:00 AM – 4:30 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached at (703) 305-9790.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231.

The fax numbers for the organization where this application or proceeding is assigned are as follow:

(703) 872-9306 [Official Communication]

Hand-delivered responses should be brought to:

Crystal Park II
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Application/Control Number: 09/418,418

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Baoquoc N. To

June 22, 2004


JEAN M. CORRIELUS
PRIMARY EXAMINER